## Math 3 Review for Cumulative Exam Chapters 6 and 7

- 1. Find the product
- $\frac{x^2 4x 5}{x^2 + 6x + 9} \bullet \frac{2x^2 + 6x}{x^2 + 3x + 2}$
- 3. Find the sum
- $\frac{7}{x^2 5x 24} + \frac{3}{x 8}$

2. Find the quotient

$$\frac{x^2 + 5x - 14}{x + 3} \div \left(x^2 - 4x + 4\right)$$

4. Find the sum

 $\frac{14}{x^2 + 7x - 18} + \frac{6}{x + 9}$ 

- 5. Find the difference  $\frac{5}{x+1} \frac{3}{x+2}$
- 7. Solve the equation  $\frac{3}{r} + \frac{5}{2} = \frac{-12}{r}$

6. Find the difference  $\frac{6}{x+4} - \frac{5x}{x-3}$ 

- 8. Solve the equation  $\frac{5}{x} + \frac{7}{4} = \frac{9}{x}$
- 9. Write a rule for the nth term of the sequence. Then, find the 23rd term
  - 375, 75, 15, 3, ...
- 10. Write a rule for the nth term of the sequence. Then, find the 23rd term

51, 48, 45, 42, ...

11. Find the sums

a. b. 
$$\sum_{k=1}^{6} (k^2 - 3)$$
 b.  $\sum_{i=1}^{20} (3i + 7)$  c.  $\sum_{n=1}^{\infty} 7 (\frac{1}{4})^{n-1}$  d.  $\sum_{k=1}^{10} 4(3)^{k-1}$